LANGUAGE ARTS TOPICS – GRADES 7-8

SPELLING

1. Enlarge speaking, reading & writing vocabulary through the use of spellings skills.

GRAMMAR

2. Articulate the function of words within sentences.
3. Name basic grammatical terminology.
4. Derive appropriate pronouns & antecedents.
5. Discuss the dynamic nature of language by identifying changes in pronunciation, meaning & word usage.

LITERATURE

1. Explain that literature reflects the purpose, values & ideas of the author.
2. Expand range of interest through reading for pleasure and/or information.
3. Compare themes in adolescent literature with personal experience.
4. Outline the basic methods the author uses to create characters.
5. Demonstrate an appreciation for classics & contemporary literature appropriate for the adolescent reader.
6. Define figurative language, idiomatic expression, colloquial terms, allusions, stereotyping & bias.

MEDIA

1. Use media to expand cultural development, knowledge base & vicarious experiences.
2. Process information from a variety of media & use a variety of media to make reports.
3. Analyze a variety of media to learn about current events.
4. Locate & read international, national, state & local news, sports & editorial sections of the newspaper.
5. Establish criteria for comparing & evaluating the effectiveness of media & media presentations.
6. Operate & use audiovisual equipment.

READING

1. Adjust reading rate according to purpose & difficulty of material.
2. Compare concepts & generalizations based on information or ideas encountered in a variety of reading materials.
3. Self-select a wide variety of reading materials.
4. Expand reading vocabulary through use of context clues to acquire word meaning in reading passages of increasing difficulty.
5. Use library & reference skills to locate information.
6. Participate in oral reading and/or performance of dramatic materials.
7. Discern author's purpose.
8. Preview textbook reading assignments using editorial aids.
9. Use study skill techniques for effective reading.

REASONING

1. Report data related to problem.
2. Synthesize information from multiple sources.
3. Propose causes of or solutions to a problem.
4. Solve problems when presented with information by identifying components & their relationship & arrangement.
5. Compare ideas obtained from various sources.
6. Detect & react appropriately to propaganda & biases.

SPEAKING/LISTENING

1. Participate in dramatic presentations.
2. Paraphrase orally from written & oral communications.
3. Listen to & paraphrase information orally to put the message in own words.
4. Use clear, concise language which is organized according to purpose, audience, and situation.
5. Exhibit confidence as a speaker through effective use of language, body, & voice.

WRITING

1. Express him/her self in writing using forms of his/her own choice.
2. Record regularly his/her experiences, thoughts, & feelings.
3. Write narrative fiction.
4. Write coherent paragraphs using effective methods of arranging details.
5. Write business letters for various purposes.
6. Complete forms & applications.
7. Write paraphrased information & summarize materials in writing.
8. Exhibit effective questioning & analytic sentences during a writing conference.

MATH TOPICS – GRADES 7-8

NUMBERS AND NUMERATION

1. Describe the characteristics of integers, order them, and plot them on the number line.
2. Order rational and irrational numbers on a number line.
3. Round any number in the range of billions to billionths to a given place value.
4. Explain the need for and the use of estimation.
5. Express any number in the range of billions to billionths in expanded and scientific notation.
6. List the prime factors of any three-digit number and express them using exponents.
7. Describe and find the greatest common factor and least common multiple of a set of numbers.
8. Express percent in several ways.
9. Express equivalent relationships between fractions, decimals, and percents.

OPERATIONS

1. Add, subtract, multiply, and divide rational numbers arranged either horizontally or vertically.
2. Find squares and square roots.
3. Use calculators and computers when appropriate.
4. Estimate sums, differences, products, and quotients.
5. Apply formulas such as D=rt, A=lw, V=lwh, A=~r2 etc.
6. Use appropriate mathematical vocabulary.
7. Solve simple linear equations and open sentences.
8. Use percents in computation by converting to equivalent fractions or decimals.
9. Find and use greatest common factors and least common multiples.
10. Evaluate expressions using the correct order of operations.
11. Find fractional parts of whole numbers.

MEASUREMENT

1. Use estimated values to check measurements of lengths, area, volume, mass, and temperature.
2. Determine the precision of calculations involving measured quantities by the least precise measurement.
3. Measure volume using containers graduated in metric and English units.
4. Measure mass (weight) using devices graduated in metric and English units.
5. Recognize that error is inherent in measurement and estimate variations caused by error.

GEOMETRY

1. Find surface area and volume of prisms, pyramids, spheres, cylinders, and cones.
2. Measure and categorize angles.
3. Explain the meaning of congruence and similarity by visual comparison.
4. Determine congruent or similar figures by measurements of the least number of corresponding parts.
5. Recognize different types of symmetry.

6. State and apply the Pythagorean Theorem.
7. Recognize and use the vocabulary and symbols of geometry.
8. Find and approximation of the value of pi and use it appropriately.
9. Use LOGO, the Geometric Supposer, and other appropriate computer software.
10. Perform the standard Euclidean constructions using compass and straight-edge.
11. Determine when lines are parallel by the measure of the appropriate angles made by a transversal.
12. Use the Pythagorean Theorem when appropriate to calculate an unknown length.

COLLECTION AND USE OF DATA

1. Find the value of and explain the meaning of average, mean, median, mode, and range of a collection of data.
2. Analyze and solve simple one or two event probability problems, including the collection of data.
3. Graph ordered pairs in all four quadrants.
4. Graph linear functions.
5. Read, interpret, & construct pictographs, bar, line, & circle graphs.
6. Calculate the number of finite orderings for a set of different numbers.
7. Determine the probability of events using sample spaces.
8. Use a computer to process the results of an experiment or survey.
9. Explain when to use a sample versus a census method of data collection.

PROBLEM SOLVING

1. Make a model or picture.
2. Obtain relevant data from the text, other written sources, or from experimental results.
3. Perform computations, making appropriate use of calculators & computers, including applicable software.
4. Generate and check solution candidates.
5. Organize data in lists, tables, or graphs.
6. Make inferences and generalizations.
7. Simplify data.
8. Write and use equations and formulas.
9. Explain and use the concept of iteration to process an algorithm.
10. Use logical sequencing and operators.
11. Solve problems with no numbers.
12. Solve problems that contain unneeded information.
13. Explore problems with insufficient information.
14. Explore problems with multiple solutions.
15. Solve problems involving ration and proportion.
16. Solve problems involving area & perimeter of squares, rectangles and triangles.
17. Solve problems involving probability using manipulative materials and computers.
18. Work with others in groups to solve problems.

SCIENCE TOPICS – GRADES 7-8

PROCESSES

1. OBSERVING - using the senses (seeing, tasting, touching, hearing and smelling) to find out about objects of events in the environment.
2. DESCRIBING AND COMPARING - recognizing and relating ways in which objects or events are alike or different.
3. CLASSIFYING - grouping objects or events according to their observed characteristics.
4. INFERRING - suggesting explanations, reasons, or causes for events which have occurred which may not be directly observable.
5. PREDICTING - describing in advance the outcome of an event or process based on observations or data.
6. MEASURING - finding out about an unknown quantity by comparing the mass, area, length or volume with a known quantity.
7. COMMUNICATING - conveying information through the use of oral or written descriptions, pictures. Graphs, charts, maps, demonstrations, etc.
8. INTERPRETING DATA - explaining the meaning or the significance of information regarding an object or event.
9. FORMULATING QUESTIONS - thinking, asking and writing questions based on the nature and process of scientific events.
10. EXPERIMENTING - describing and carrying out procedures under controlled conditions in which variables are limited to obtain reliable information about interrelationships between objects and events.
11. HYPOTHESIZING - stating a probable explanation for some occurrence which is subject to testing.

LIFE SCIENCE

1. Identify basic cell parts by their function.
2. Locate cells and basic cell parts with a microscope and record the findings.
3. Compare and contrast plant and animal cells.
4. Categorize cells by appearance and the role they play in an organism.
5. Research information on cells and relate that information to their role in multi-cellular organisms.
6. Identify and diagram the organs of an organism and describe their functions.
7. Design experiments that provide measurable data to show relationships between systems within an organism.
8. Relate organs to systems.
9. Compare and contrast the organs and systems of several plants and animals.
10. Categorize organisms by appearance, habitat and behavior.
11. Design and use classification keys.
12. Recognize and evaluate the relationship of foods to body function.
13. Design diets which satisfy individual nutritional needs.
14. Predict the effects of foreign substances on body function.
15. Distinguish diseases by changes in body function.
16. Identify natural body defense systems.
17. Predict the consequences of various treatments for disease.

PHYSICAL SCIENCE

1. Demonstrate the safe use and care of laboratory equipment and supplies.
2. Design and carry to experiments that demonstrate physical & chemical change.
3. Chart or graph measurable date showing the properties of matter.
4. Distinguish between elements, compounds and mixtures.
5. Chart or graph measurable date when a force is applied to do work.
6. Categorize energy forms (electrical, mechanical, chemical, etc.) as kinetic or potential.
7. Design & carry out experiments to demonstrate energy change.
8. Apply the law of conservation of matter to chemical
9. Construct and explain models which illustrate molecular structure.
10. Infer characteristics and/or properties of elements of a periodic table.
11. Demonstrate fundamental properties of sound and light.
12. Demonstrate fundament applications of electricity and magnetism.
13. Interpret molecular formulas.
14. Differentiate between acids, bases and salts.

EARTH & SPACE SCIENCE

1. Describe the relationship between the Earth and moon
2. Illustrate the organization and interaction of bodies in the solar system.
3. Research information on celestial bodies of the universe and make inferences about their nature.
4. Describe the layers and force of the atmosphere.
5. Collect, chart or graph weather data and predict future weather.
6. Design experiments that show the effect weather has upon the Earth.
7. Compare and contrast severe weather phenomena.
8. Draw conclusions about climate from weather & physical geography data.
9. Collect and record data on the physical properties of rocks & minerals.
10. Identify rocks & minerals using a classification key.
11. Describe the composition of the Earth.
12. Identify internal & external forces that change the structure of the Earth.
13. Chart, graph or map results of geologic activities.
14. Predict the result of the action of geologic force on an area of the Earth.
15. Interpret the relationships between rocks & minerals & the Earth's geologic activities.
16. Research information to predict the result of man's interaction with geological activity.
17. Formulate basic ideas about the origin of the Earth using research information.
18. Sequence a group of geologic events.
19. Construct timelines to illustrate relative lengths of geologic events in chronological order.
20. Infer the age of fossilized material and rocks using date from radioactive dating.
21. Interpret data to draw conclusions about geologic periods.

ENVIRONMENTAL SCIENCE

1. Identify and describe the living and non-living parts of an ecosystem.
2. Design and carry out experiments which illustrate the relationship between living and non-living parts of the ecosystem.

ANTHROPOLOGY

1. Describe a non-extant culture based on examination of its artifacts.
2. Describe a culture based on its physical environment.
3. Analyze two or more eras for common cultural elements.
4. Using several sources, describe the ethos of a particular group of people.

PSYCHOLOGY

1. Role play a conflict situation and negotiate a resolution.
2. Justify and empathize with the grievances of a minority group.

SOCIAL STUDIES TOPICS – GRADES 7-8

CONTENT

Region as an area of cultural/physical homogeneity
The Earth's limited resources
People/earth relationships
History as a living force, a series of changing events, peoples & trends
History as a series of cause and effect relationships
Continuity in human events
Conflict throughout human experience
Historical perspective
Historical evidence
Economic systems: scarcity, supply & demand, & natural resources
Economic interdependence among the world cultures
Cultures as a reflection of physical environment and social experiences
Discovery, exploration, and settlement
Conflict and conflict resolution: forms, causes, and methods
Governing a nation: forms of government, citizenship & political leadership
Patterns of economic development: resources, government's role, labor, technology and markets
Frontiers and mobility: migration patterns and social change
Minority studies
Future perspectives

GEOGRAPHY

1. Compare and contrast any two regions of the world
2. Identify factors in Earth's past and current formation (weathering, continental drift, plate tectonic)
3. Categorize renewable and non-renewable resources
4. Distinguish between cultural features and natural features
5. Demonstrate the relationship between Earth's resources and human use
6. Weigh people's impact on Earth's ecology
7. Identify and local various land forms and bodies of water
8. Differentiate, read, interpret, and construct maps
9. Define and illustrate the Earth in space
10. Compare and contrast earlier maps & globes with those of present day
11. Observe and report data based on special purpose maps
12. Locate the frontiers of the United States during different periods

HISTORY

1. Construct a timeline of important events in the history of any culture
2. Recognize causes for an historical event (effect)
3. Predict future effects of current events
4. Show elements of human experience which have remained constant in a culture
5. Analyze the arguments in a conflict/dilemma
6. Propose solutions to a conflict/dilemma

7. Consider and classify various forms of evidence in the study of a culture's past
8. Identify the elements that bring about exploration
9. State each argument in a conflict and suggest methods of resolution
10. Use primary and secondary sources of evidence
11. Judge the reliability of various sources of evidence
12. Distinguish statements of fact and opinion

ECONOMICS

1. Describe the types of economic systems
2. Hypothesize about the consequence of changes in supply and/or demand
3. Classify the work people do with the goods and services that are produced
4. Illustrate global economic interdependence by describing how a product is made with resources from various countries
5. Appraise the result technological change
6. Describe how economic factors may be a cause for conflict
7. Construct and read charts of economic growth
8. Predict future trends in the economy of a selected country

LAW & GOVERNMENT

1. Debate the pros and cons of the various systems of government
2. Identify the individual or group which exercises the most power in various political systems
3. Justify why a set of rules or laws has been developed in a culture
4. Design a set of rules or laws for a hypothetical society
5. Determine a society's values based on its activities
6. Cite examples of what is good citizenship in a society
7. Illustrate the influences of propaganda on citizen action

SOCIOLOGY

1. State the various groups to which an individual may belong
2. Classify, without stereotyping, the roles, responsibilities and function of the individual members of a specific group
3. List the universal institutions of all cultures
4. Create a model of social classes that reflect the values of a particular group
5. Describe how different cultures have influenced one another
6. Appraise the difficulties of adaptation and assimilation of cultures
7. Predict sociological pattern changes in the future